PROJECT DESCRIPTION

<u>GENERAL</u>

THIS PROJECT INVOLVES THE MODIFICATION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 28 (W. MONTGOMERY AVENUE) AT DARNESTOWN ROAD IN MONTGOMERY COUNTY. THE MODIFICATION INCLUDES THE INSTALLATION OF LED VEHICULAR SIGNAL HEADS. ACCESSIBLE PUSHBUTTONS AND COUNTDOWN LED PEDESTRIAN SIGNALS ACROSS THE SOUTH AND WEST LEGS.

MD 28 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FOUR PHASE, FULLY-ACTUATED TRAFFIC MODE. THE EXISTING WESTBOUND EXCLUSIVE LEFT TURN, AND NORTHBOUND RIGHT-TURN WILL OPERATE CONCURRENTLY AND MAINLINE PEDESTRIAN PHASES WILL REMAIN. THE SIDE STREET EAST LEG ALTERNATE PEDESTRIAN PHASE WILL BE REMOVED. A SIDE STREET WEST LEG ALTERNATE PEDESTRIAN PHASE IS PROPOSED.

CONTROLLER REQUIREMENTS

THE EXISTING BASE MOUNTED CABINET, CONTROLLER, EQUIPMENT AND ASSOCIATED HARNESSES SHALL REMAIN. THE MONTGOMERY COUNTY SIGNAL SHOP WILL INSTALL ONE (1) 2 WIRE CENTRAL CONTROL UNIT WITHIN THE CABINET.

APS WILL FUNCTION AS FOLLOWS:

engineers /architects /planners /construction managers 7125 Ambassador Road Baltimore, MD 21244-2722 (410) 944-9112

FOR W. MONTGOMERY AVENUE

- A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS W. MONTGOMERY AT DARNESTOWN."
- B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

FOR DARNESTOWN ROAD

- A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS DARNESTOWN AT W. MONTGOMERY."
- B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

THE CONTACT PERSONS FOR DISTRICT =3 / OOTS/ MONT. COUNTY ARE AS FOLLOWS: District •3

ELW-EXISTING LOOP WIRE

Mr. Jeff Wentz Assistant District Engineer - Traffic

Phone: 301-513-7358

Mr. Augie Rebish District Utility Engineer Phone: 301-513-7350

Mr. Vernon Stinnett, Jr. Assistant District Engineer - Maintenance Phone: 301-513-7304

Mr. Keyin Nowak Assistant District Engineer - Construction Phone: 301-513-7336

Office Of Traffic & Safety

Mr.Richard`L.Daff Sr. Chief, Traffic Operations Division Phone: 410-787-7630

Mr.Robert Snyder Assistant Division Chief, Traffic Operations 410-787-7630

Mr.Edward Rodenhizer Team Leader Signal Operations Phone: 410-787-7650

Mr.Eugene Balley Team Leader Sign Operations 410-787-7670

Montgomery County

Mr. Kamal Hamud Montgomery County Traffic Engineering Phone: 240-777-8761

Mr. Keith Lord

Montgomery County Signal Shop Phone: 301-279-1290

The Power Company Representative is: Potomac Electric Power Company 8300 Old Marlboro Pike Upper Marlboro, Maryland 20772 Phone: 301-961-5325

EQUIPMENT LIST 'A'

NONE - ALL REMOVED EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

EQUIPMENT LIST 'B' FOUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

EQUIPMENT	TO BE FURN	ISHED BY THE SHA.	EQUIPMENT	EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.						
ITEM_NO.	QUANTITY	DESCRIPTION	ITEM NO.	<u>QUANTITY</u>	DESCRIPTION					
957I 33 SF [UPDATED] SHEET ALUMIN		[UPDATED] SHEET ALUMINUM MAST ARM/	1001	2 EA	MAINTENANCE OF TRAFFIC					
3371		POLE MOUNTED SIGN:	2002	3 CY	TEST PIT EXCAVATION					
		IEA - SHIELD ASSEMBLY (24 IN. x 51 IN.)	5001		REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS - ANY WIDTH					
		"EAST, MD 28, RIGHT ARROW"	5003	35 LF	5 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES					
		I EA - SHIELD ASSEMBLY (36 IN. × 75 IN.)	5005	410 LF	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS					
		"WEST, MD 28, ADVANCED LEFT ARROW"	5006	IOO LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS					
		4 EA - RIO-3(I)(9 IN. x I5 IN.) "PUSH BUTTON TO CROSS W. MONTGOMERY AVE."	6001	270 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH CURB					
		2 EA - RIO-3(I) (9 IN. × 15 IN.)	6002	1200 SF	5 INCH CONCRETE SIDEWALK					
		"PUSH BUTTON TO CROSS DARNESTOWN ROAD"	8001	34 EA	12 INCH LED SIGNAL HEAD SECTION					
			8002	I EA	2 WIRE CENTRAL CONTROL UNIT					
			8006	2 EA	ADJUST HANDHOLE TO GRADE					
			8007	6 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS					
			8008	6 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)					
			8010	6 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD					
			8013	IEA	REMOVE & DISPOSE OF EQUIPMENT (PER ASSIGNMENT)					
			8017	65 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED					
			8018	80 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED					
	<u>EQUIPI</u>	<u>MENT LIST 'C'</u>	8019	70 SF	DETECTABLE WARNING SURFACES					
FOU	IIDMENT TO BE R	EMOVED AND RETURNED TO SHA.	8022	IEA	FURNISH AND INSTALL ELECTRICAL HANDHOLE					
Edo	AFRICATIO DE IX	ENOVED AND INCIDINGED TO SHAP	8023	1240 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO.14 AWG)					
<u>(TE</u>)	M NO. QUAN	NTITY DESCRIPTION	8025	1180 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)					
			8026	350 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)					

PHASE CHART

8033

8034

8035

8036

200 LF

48 SF

25 LF

2 EA

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	(E) S(G)	(D)<	(C)>(G)			(R)>(G)	RYG		(R)>(G)								
PHASE 5 ALT.	R	R	R	← G−	← G−	R	R	R⁄G →	R	R⁄G →	DW	DW	DW	DW	W/K	W/K	•
PED CLEARANCE	R	R	R	← G−	← G−	R	R	R∕G→	R	R⁄G →	DW	DW	DW	DW.	FL⁄DW	FL⁄DW	_
PHASE 5 ALT. CHANGE	R	R	R	- G	← G−	R	R	R∕G→	R	R∕G→	DW	DW	DW	DW	DW	DW .	T _
PHASE 2 & 5	R	R	R	← G−	← G−	G	G	R∕G→	R	R∕G→	DW	DW	DW	DW	DW	DW	
PHASE 5 CHANGE	R	R	R	← Y−	← Y−	G	G	R/Y →	R	R∕Y →	DW	DW	DW	DW	DW	DW	
PHASE 2 & 6	G	G	G	← R−	← R−	G	G	R	R	R	W/K	W/K	DW	DW	DW	DW	
PED CLEARANCE	G	G	G	← R	← R	G	G	R	R	R	FL⁄DW	FL⁄DW	DW	DW	DW	DW	_
PHASE 2 & 6 CHANGE	Y	Υ	¹ Y	← R−	← R-	Υ	Υ	R	R	R	DW	DW	DW	DW	DW	DW	0 C
PHASE 4	R	R	R	← R−	← R−	R	R	G	G	G	DW	DW	DW	DW	DW	DW	<u></u>
PHASE 4 CHANGE	R	R	R	← R−	← R-	R	R	Υ	Υ	Υ	DW	DW	DW	DW	DW	DW	-
PHASE 4 ALT.	R	R	R	← R−	← R-	R	R	G	G	G	DW	DW	W/K	W/K	DW	DW	± √.
PED CLEARANCE	R	R	R	← R−	← R−	R	R	G	G	G	DW	DW	FL⁄DW	FL⁄DW	DW	DW	
PHASE 4 ALT, CHANGE	R	R	R	← R−	← R−	R	R	Y	Υ	Υ	DW	DW	DW	DW	DW	DW	h• /
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/RA	FL/RA	FL/Y	FL/Y	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	

TOD NO:XX427-03 SHA NO:MO228A51/B51 MD 28@ DARESTOWN RD



NO.6 AWG STRANDED BARE COPPER GROUND WIRE

REMOVAL AND DISPOSAL OF EXISTING TRAFFIC W-BEAM

REMOVE AND RESET SINGLE BUFFER END TREATMENTS

INSTALL OVERHEAD SIGN

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY TRAFFIC ENGINEERING DESIGN DIVISION

MD 28 (W. MONTGOMERY AVENUE) AT DARNESTOWN ROAD

ROCKVILLE, MD GENERAL INFORMATION

	<u> </u>				_
SCALE NONE	_ ADVERTISE	D DATE	5⁄2009	CONTRACT NO. XX4275185	_
DESIGNED BY	MCG		COUNT	Y MONTGOMERY	_
DRAWN BY	MCG		LOGMIL	_E15002 <u>820.42</u>	_
CHECKED BY	BAB		TIMS N	IOJ440	-
F.A.P. NO			TOD N	IO	-
TS NO3339-A-GI	DRAWING	SG-02	OF 02	SHEET NO. 2 OF 2	-

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F,K,L	WIRING DIAGRAM	1
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L,N,P A		
L,N,P	ELW	
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EX. U/G I/C WEST TO W. GUDE DR.	*	III, EPS
~□	D,E,F,H,J,K,M,N,O,P,Q	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
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E,J,L ———————————————————————————————————		B,C,D,E,F,G,H, 0649 J,K,M,N,O,P,Q
D D	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
D,H,L		B,C,G,L
		A-USE EXISTING CABLE G PROPOSED CROUND POD - 3/4 IN
	ELW ELW ELW	B ELECTRICAL CABLE - 7 M CONDUCTOR (NO. 14 AWG) H ELECTRICAL CABLE - 2 M CONDUCTOR (NO. 14 AWG) H ELECTRICAL CABLE - 2 DIAMETER X 10 FOOT LENGTH
,		O IN. DIAMETER × 10 FT. LENGTH
STV Incorporated	•	E ELECTRICAL CABLE - 5 NO. 6 STRANDED BARE CONDUCTOR (NO. 14 AWG) COPPER GROUND WIRE EDS EVISTING DOWER SERVICE
of v incorporated		EPS - EXISTING POWER SERVICE